

**LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT(S)' INFORMATION DISCLOSURE  
STATEMENT**  
(Use several sheets if necessary)

**ATTY. DOCKET NO.**  
21182-7067

**SERIAL NO.**  
~~Not yet assigned~~  
09/918,874

**INVENTOR**  
MARDER, et al.

**FILING DATE**  
Herewith 07/30/01

**GROUP ART UNIT**  
~~Not yet assigned~~ 1712

1c978 U.S. PTO  
09/918874

**REFERENCE DESIGNATION****U.S. PATENT DOCUMENTS**

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	Class	Subclass	Filing Date If Appropriate
* ROL	A1	4,041,476	08/09/77	Swainson, et al.	340	173	07/23/71
*	A2	4,078,229	03/07/78	Swainson, et al.	340	173	01/27/75
*	A3	4,238,840	12/09/80	Swainson, et al.	365	119	04/22/77
*	A4	4,288,861	09/08/81	Swainson, et al.	365	127	01/22/79
*	A5	4,333,165	06/01/82	Swainson, et al.	365	120	12/01/77
*	A6	4,466,080	08/14/84	Swainson, et al.	365	106	04/15/81
*	A7	4,471,470	09/11/84	Swainson, et al.	365	127	02/22/82
*	A8	5,034,613	07/23/91	Denk, et al.	250	458.1	11/14/89
*	A9	5,268,862	12/07/93	Rentzepis	365	151	04/25/89
*	A10	5,523,573	06/04/96	Hanninen, et al.	250	459	12/28/94
*	A11	4,014,871	03/29/77	Kormány, et al.	260	240 C	08/06/75
*	A12	4,165,434	09/21/79	Schäfer, et al.	544	197	06/01/77
*	A13	4,271,395	06/02/81	Brinkman, et al.	331	94.5 L	01/03/78
*	A14	5,009,815	04/23/91	Wakita, et al.	252	582	02/09/90
*	A15	5,086,239	02/04/92	Wang	359	328	02/22/90
*	A16	5,451,494	09/19/95	Diehl, et al.	430	522	07/22/94
*	A17	5,670,090	09/23/97	Marder, et al.	252	582	06/01/95
* ROL	A18	5,795,729	08/18/98	Lee	435	24	02/05/96

**FOREIGN PATENT DOCUMENTS**

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	Subclass	TRANSLAT'N
							yes   no
* ROL	B1	2187734	7/90	Japan	252	582	X

**OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.)**

* ROL	C1	Anderson, et al., "Two-photon absorptivities of the all <i>trans</i> $\alpha$ , $\omega$ -diphenylpolyenes from stilene to diphenyloctatetraene via three wave mixing," <i>J. Chem. Phys.</i> 70 (9), pp. 4310-15 (1979).
* ROL	C2	Beljonne, et al., "Two-photon absorption and third-harmonic generation of di-alkyl-amino-nitro-stilbene (DANS): A joint experimental and theoretical study," <i>J. Chem. Phys.</i> 103 (18), pp. 7834-43 (1995).
* ROL	C3	Bhawalakar, et al., "Efficient, two-photon pumped green upconverted cavity lasing in a new dye," <i>Opt. Comm.</i> 124, pp. 33-37 (1996).
* ROL	C4	Birge, "An Introduction to Two-Photon Spectroscopy," <i>Spectroscopy of Biological Molecules: Theory and Applications - Chemistry, Physics, Biology, and Medicine</i> , No. 39, pp. 457-71 (1983).
* ROL	C5	Bimbaum, et al., "Location of a $A_g$ state in bithiophene," <i>J. Chem. Phys.</i> , 96 (4), pp. 2492-95 (1992).
* ROL	C6	Bimbaum, et al., "Low lying singlet states of $\alpha$ , $\omega$ -dithienylpolyenes: $\alpha$ , $\omega$ -dithienylbutadiene, $\alpha$ , $\omega$ -dithienylhexatriene, and $\alpha$ , $\omega$ -dithienyloctatetraene," <i>J. Chem. Phys.</i> , 94 (3), pp. 1684-91 (1991).
* ROL	C7	Brede, et al., "Photo- and Radiation-induced Chemical Generation and Reactions of Styrene Radical Cations in Polar and Non-polar Solvents," <i>J. Chem. Soc. Perkin Trans. 2</i> , pp. 23-32 (1995).
* ROL	C8	Carre, et al., "Biphotonic process for recording holograms with continuous-wave lasers in the near infrared," <i>Optics Letters</i> , 12 (9), pp. 646-47 (1987).
* ROL	C9	Casstevens, Martin K., et al., "A New Class of Materials for Optical Power Limiting", in Nonlinear Optical liquids and power limiters; Proceedings of the Meeting, San Diego, CA, July 30-31, 1997 (A98-22080 05-74), Bellingham, Society of Photo-Optical Instrumentation Engineers (SPIE Proceedings, Vol. 3146), 1997, p. 152-159.
* ROL	C10	Cha, et al., "Two photon absorption of di-alkyl-amino-nitro-stilbene side chain polymer, <i>Appl. Phys. Lett.</i> 65 (21), pp. 2648-50 (1994).
* ROL	C11	Couris, et al., "Concentration and wavelength dependence of the effective third-order susceptibility and optical limiting of $C_{60}$ in toluene solution," <i>J. Phys. B: At. Mol. Opt. Phys.</i> 28, pp. 4537-54 (1995).

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* 	C12	Denk, et al., "Anatomical and functional imaging of neurons using 2-photon laser scanning microscopy," <i>J. Neuroscience Methods</i> 54, pp. 151-62 (1994).
* 	C13	Denk, et al., "Two-Photon Laser Scanning Fluorescence Microscopy," <i>Science</i> 248, pp. 73-76 (1990).
* 	C14	Desai, et al., "Laser-Induced Polymerization within Carbon Disulfide Clusters," <i>J. Phys. Chem.</i> , 99 (6), pp. 1786-91 (1995).
* 	C15	El-Shall, et al., "Comparative Polymerization in the Gas Phase and in Clusters. 2. Electron Impact and Multiphoton-Induced Reactions in Isobutene and Benzene/Isobutene Clusters," <i>J. Am. Chem. Soc.</i> , 117 (29), pp. 7744-52 (1995).
* 	C16	Fuke, et al., "Two-Photon Absorption spectrum of Trans-Stilbene, Trans-Cis Photoisomerization via Upper $^1A_g$ State," <i>Chem. Phys. Lett.</i> 74 (3), pp. 546-548 (1980).
* 	C17	Goodman, et al., "Two-Photon Spectra of Aromatic Molecules," <i>Acc. Chem. Res.</i> 17, pp. 250-57 (1984).
* 	C18	He, et al., "Nonlinear optical properties of a new chromophore," <i>J. Opt. Soc. Am B</i> 14 (5), pp. 1079-87 (1997).
* 	C19	He, et al., "Studies of two-photon pumped frequency-upconverted lasing properties of a new dye material," <i>J. Appl. Phys.</i> 81 (6), pp. 2529-37 (1997).
* 	C20	He, et al., "Two-photon absorption and optical-limiting properties of novel organic compounds," <i>Opt. Lett.</i> 20 (18), pp. 435-37 (1995).
* 	C21	He, et al., "Two-photon absorption based optical limiting and stabilization in organic molecule-doped solid materials," <i>Opt. Comm.</i> , 117, pp. 133-36 (1995).
* 	C22	He, et al., "Upconversion dye-doped polymer fiber laser," <i>Appl. Phys. Lett.</i> 68 (25), pp. 3549-51 (1996).
* 	C23	Hunter, et al., "Potentials of two-photon based 3-D optical memories for high performance computing," <i>Applied Optics</i> 29 (14), pp. 2058-66 (1990).
* 	C24	Itoh, et al., "Dual Fluorescence of Diphenylpolyenes," <i>J. Phys. Chem.</i> , 91 (7), pp. 1760-64 (1987).
* 	C25	Itoh, et al., "Fluorescence quantum yields of $\alpha$ , $\omega$ -diphenylpolyenes," <i>Spectrochimica Acta</i> 50A (13), pp. 2261-63 (1994).
* 	C26	Jones, et al., "Direct observation of the $2^1A_g$ electronic state of carotenoid molecules by consecutive two-photon absorption spectroscopy," <i>J. Photochem. Photobiol. A: Chem.</i> 68, pp. 59-75 (1992).
* 	C27	Kennedy, et al., " $\rho$ -Bis(o-methylstyryl)benzene as a Power-Squared Sensor for Two-Photon Absorption Measurements between 537 and 694 nm," <i>Anal. Chem.</i> 58 (13), pp. 2643-47 (1986).
* 	C28	Kim, et al., "Synthesis of Electroluminescent Polymer containing charge Transport and Emissive Chromophores on Polymer Skeleton," <i>Chemistry Letters</i> , pp. 587-88 (1995).
* 	C29	Kohler, et al., "Fluorescence from the $1^1B_u$ State of Diphenylhexatriene: Inversion of the $1^1B_u$ and $2^1A_g$ Levels in $CS_2$ ," <i>J. Phys. Chem.</i> , 92 (18), pp. 5120-22 (1988).
* 	C30	Kohler, et al., "Saturation kinetics of the $S_0$ to $S_2$ optical transition in isolated diphenylhexatriene," <i>J. Chem. Phys.</i> , 82 (7), pp. 2939-41 (1985).
* 	C31	Kumar, et al., "Optical nonlinearity in a mode-locking dye: optical limiting and four wave mixing," <i>Chemical Physics Letters</i> 245, pp. 287-91 (1995).
* 	C32	Lakowicz, et al., "Two Photon-Induced Fluorescence Intensity and Anisotropy Decays of Diphenylhexatriene in Solvents and Lipid Bilayers," <i>Journal of Fluorescence</i> 2 (4), pp. 247-58 (1992).
* 	C33	Lin, et al., "Dual Fluorescence of $\rho, \rho'$ -Disubstituted 1,6-Diphenyl-1,3,5-hexatrienes: Evidence of a Twisted Intramolecular Charge Transfer State," <i>J. Phys. Chem.</i> 93 (1), pp. 39-43 (1989).
* 	C34	Luo, et al., "One- and Two-Photon Absorption Spectra of Short Conjugated Polyenes," <i>J. Phys. Chem.</i> 98 (32), pp. 7782-89 (1994).
* 	C35	Maiti, et al., "Measuring Serotonin Distribution in Live Cells with Three-Photon Excitation," <i>Science</i> 275, pp. 530-32.
* 	C36	Maruo, et al., "Three-dimensional microfabrication with two-photon-absorbed photopolymerization," <i>Opt. Lett.</i> 22 (2), pp. 132-34 (1997).
* 	C37	McEwan, et al., "Picosecond-induced Nonlinear Absorption in Liquid Crystal Media," <i>J. Nonlinear Opt. Phys. and Mater.</i> 4 (1), pp. 245-60 (1995).
* 	C38	Mertz, et al., "Single-molecule detection by two-photon-excited fluorescence," <i>Optics Letters</i> 20 (24), pp. 2532-34 (1995).
* 	C39	Narang, et al., "Characterization of a New Solvent-Sensitive Two-Photon-Induced Fluorescent (Aminostyryl)pyridinium Salt Dye," <i>J. Phys. Chem.</i> 100 (11), pp. 4521-25 (1996).
* 	C40	Parma, et al., "Two-Photon Absorption of 7-Hydroxycoumarin," <i>Chem. Phys. Lett.</i> 54 (3), pp. 541-43 (1978).
* 	C41	Parthenopoulos, et al., "Three-Dimensional Optical Storage Memory," <i>Science</i> 245, pp. 843-45 (1989).
* 	C42	Plakhotnik, et al., "Nonlinear Spectroscopy on a Single Quantum System: Two-Photon Absorption of a Single Molecule," <i>Science</i> 271, pp. 1703-05 (1996).
* 	C43	Praasad, et al., "Multiphoton Resonant Nonlinear Optical Processes in Organic Molecules," ACS Symposium, Chapter 13, pp. 225-36 (1996).

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<b>FORM PTO-1449 (Modified [6-1])</b>  <b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT(S)' INFORMATION DISCLOSURE STATEMENT</b> (Use several sheets if necessary)	<b>ATTY. DOCKET NO.</b> 21182-7067	<b>SERIAL NO.</b> Not yet assigned 09/918,874
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* ROL	C44	Puccetti, <i>et al.</i> , "Chain-Length Dependence of the Third-Order Polarizability of Disubstituted Polyenes. Effects of End Groups and Conjugation Length," <i>J. Phys. Chem.</i> , 97 (37), pp. 9385-91 (1993).
* ROL	C45	Rava, <i>et al.</i> , "Regularities in the two-photon spectra of polysubstituted benzenes," <i>J. Chem. Phys.</i> , 77 (10), pp. 4912-19 (1982).
* ROL	C46	Rice, <i>et al.</i> , "Two-Photon, Thermal Lensing Spectroscopy of Monosubstituted Benzenes in the $^1B_{2u}(^1L_u) \leftarrow ^1A_{1g}(^1A)$ and $^1B_{1u}(^1L_u) \leftarrow ^1A_{1g}(^1A)$ Transition Regions", <i>J. Phys. Chem.</i> 90, pp. 6793-6800 (1986).
* ROL	C47	Roux, <i>et al.</i> , "Two-photon-absorption-induced luminescence in organic waveguide couplers," <i>J. Opt. Soc. Am. B</i> , 12 (3), pp. 428-33 (1995).
* ROL	C48	Said, <i>et al.</i> , "Third- and fifth-order optical nonlinearities in organic materials," <i>Chem. Phys. Lett.</i> 228, pp. 646-50 (1994).
* ROL	C49	Stachelek, <i>et al.</i> , "Detection and assignment of the 'phantom' photochemical singlet of <i>trans</i> -stilbene by two-photon excitation," <i>J. Chem. Phys.</i> , 66 (10), pp. 4540-43 (1977).
* ROL	C50	Strickler, <i>et al.</i> , "3-D Optical Data Storage by Two-Photon Excitation," <i>Adv. Mater.</i> 5 (6), pp. 479-81 (1993).
* ROL	C51	Strickler, <i>et al.</i> , "Three-dimensional optical data storage in refractive media by two-photon point excitation," <i>Optics Letters</i> 16 (22), pp. 1780-82 (1991).
* ROL	C52	Strickler, <i>et al.</i> , "Two-photon excitation in laser scanning fluorescence microscopy," <i>SPIE</i> 1398, pp. 107-18 (1990).
* ROL	C53	Sutherland, <i>et al.</i> , "Two-photon absorption and second hyperpolarizability measurements in diphenylbutadiene by degenerate four-wave mixing," <i>J. Chem. Phys.</i> 98 (4), pp. 2593-2603 (1993).
* ROL	C54	Tackx, <i>et al.</i> , "Distinction of two-photon absorption from other nonlinear loss mechanisms by phase-conjugate interferometry," <i>Appl. Phys. Lett.</i> 65 (3), pp. 280-82 (1994).
* ROL	C55	Williams, <i>et al.</i> , "Two-photon molecular excitation provides intrinsic 3-dimensional resolution for laser-based microscopy and microphotochemistry," <i>The FASEB Journal</i> 8, pp. 804-13 (1994).
* ROL	C56	Wong, <i>et al.</i> , "Measurements of $\chi^{(3)}(\omega; \omega, -\omega, \omega)$ in conducting polymers at $\lambda=620$ nm," <i>Synthetic Metals</i> 49-50, pp. 13-20 (1992).
* ROL	C57	Xu, <i>et al.</i> , "Determination of absolute two-photon excitation cross sections by <i>in situ</i> second-order autocorrelation," <i>Optics Letters</i> 20 (23), pp. 2372-74 (1995).
* ROL	C58	Xu, <i>et al.</i> , "Measurement of two-photon excitation cross sections of molecular fluorophores with data from 690 to 1050 nm," <i>J. Opt. Soc. Am. B</i> 13 (3), pp. 481-91 (1996).
* ROL	C59	Zhao, <i>et al.</i> , "Influence of two-photon absorption on third-order nonlinear optical processes as studied by degenerate four-wave mixing: The study of soluble dicycloxy substituted polyphenyls," <i>J. Chem. Phys.</i> 95 (6), pp. 3991-4001 (1991).
* ROL	C60	Zhao, <i>et al.</i> , "Newly Synthesized Dyes and Their Polymer/Glass Composites for One-and Two-Photon Pumped Solid-State Cavity Lasing," <i>Chem. Mater.</i> 7 (10), pp. 1979-83 (1995).

**OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.)**

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